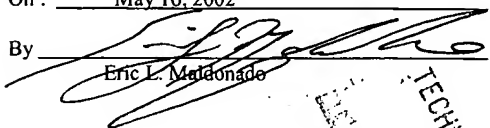




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By:   
Eric L. Maldonado

Attorney Docket No. 100806-00090 (NEKW 19,480)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor: Takeo USHIKI, et al.

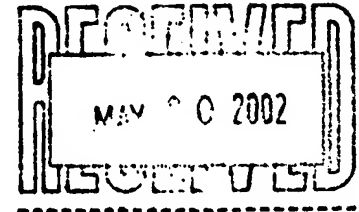
Serial No.: 10/083,440

Filed: February 26, 2002

Title: **SURFACE CONTAMINATION ANALYZER FOR...**

May 16, 2002

Assistant Commissioner for Patents  
Washington, D.C. 20231



**INFORMATION DISCLOSURE STATEMENT**

S I R:

In order to comply with discretionary rules 37 CFR §§1.97 and 1.98, attached hereto is a copy of Form PTO-1449 and copies of the documents listed thereon. These documents contain information which the Examiner may consider to be important in deciding whether to issue a patent in the instant application.

As this statement is being filed prior to issuance of a first Office Action, no fee is due.

As to the concise explanation of relevance required by 37 CFR (a)(3)I, for the reference enclosed herewith, which is not in the English language, please refer to page 2, line 22, to page 3, line 3, of the specification and the following three paragraphs.

According to the present invention, an electron beam is radiated to a reference wafer, which has not been contaminated with any organic compound, and a target wafer, which has been already contaminated with organic compounds. The electron beam gives rise to current flowing through the reference/target wafers. The amount of current through the target wafer is compared with the amount of current flowing through the reference wafer.

The enclosed copy of a thesis for a doctorate teaches two methods for detecting organic compounds. The first method is described on page 44, and is referred to as FTIR method. When

a wafer was investigated through the FTIR method, infrared light was radiated onto the wafer and Fig. 3-1 shows the experimental result. The second method is referred to as SIMS. A target sample and a reference sample were prepared as shown in Fig. 3-3 on page 46. A wafer, which had not been contaminated with organic compounds, and another wafer, which had been exposed to the atmosphere in a clean room for 24 hours, were prepared. Both wafers were analyzed through SIMS method, and the results are shown in Fig 3-4.

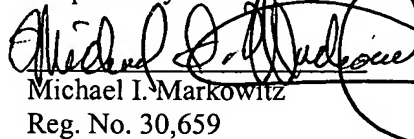
In the SIMS analysis, the first-order ionic beam, i.e., oxygen, argon or cesium was radiated to the wafers. The first-order ionic beam gave rise to the second-order ionic beam, and the amount of second-order ionic beam was measured for determining the organic compounds. The two methods are different from that used in the present invention, because any electron beam is never radiated for measuring the current.

The present Information Disclosure Statement is being submitted in compliance with 37 §CFR 1.56 as an Examiner might consider any cited document important in deciding whether to allow the application to issue as a patent, but the citation of each document is not to be construed as an admission that such document is necessarily relevant or prior art. No representation is intended that the cited documents represent the results of a complete search, and it is anticipated that the Examiner in the normal course of examination, will make an independent search and will determine the best prior art consistent with 37 CFR 1.104 (a) and 1.106 (b), and in the course of such search will review for relevance every document cited on the attached form even if not initialed.

Early and favorable consideration is respectfully solicited.

**Any fee due with this paper may be charged on Deposit Account 50-1290.**

Respectfully submitted,

  
Michael I. Markowitz  
Reg. No. 30,659

Katten Muchin Zavis Rosenman  
575 MADISON AVENUE  
15TH FLOOR  
NEW YORK, NEW YORK 10022-2585  
(212) 940-8800  
DOCKET NO. 100806-00090(NEKW 19.480)

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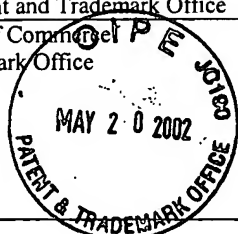
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

Sheet 1 of 1



Application No. : 10/083,440  
Filing Date : FEBRUARY 26, 2002  
First Named Inventor: T. USHIKI  
Group Art Unit :  
Examiner Name :  
Attorney Docket No. : NEKW 19.480

**U.S. PATENT DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	U.S. Patent Document	Kind Code if known <sup>2</sup>	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns Lines Where Relevant Passages or Relevant Figures Appear

**FOREIGN DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	Foreign Patent Document Office <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	Country	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns Lines Where Relevant Passages or Relevant Figures Appear

**Other Prior Art-Non Patent Literature Documents**

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), data, page(s), volume-issue number(s), publisher, country, where published, source.	Applicant check her if English language translation attached
		“RESEARCH FOR HIGHLY RELIABLE EXTREMELY THIN OXIDE LAYER” DISSERTATION FOR A DOCTOR DEGREE by Tohoku University, March, 1998.	
Examiner Signature		Date Considered	

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<sup>1</sup>Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that Issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.1<sup>6</sup> if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

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